

ABSTRACT OF THE DISCLOSURE

A casting mold and method for its use to achieve in-mold modification of the casting metal is disclosed. One or more chambers are located within the casting mold's runner system. Each chamber can contain metallurgical modifiers for adjusting the chemical composition of the metal to improve the mechanical and physical properties of an article cast from the metal. One or more modifiers can be placed in the chamber(s) as the casting mold is assembled for use. As the melt is introduced to the casting mold, it passes through the chamber(s) and liquefies the modifier. Amounts of the liquid modifier, then, are carried away and become dispersed in the melt as it continues through the runner system and into the mold cavity. The metallurgical modifiers can be selected from any number of known additives or alloying elements, including strontium, among others.